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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|-----------------------|---------------------|------------------|
| 10/042,528 | 10/18/2001 | Andrew William Mackie | 004968-056 | 7291 |
| 2101 | 7590 | 10/30/2006 | EXAMINER | |
| BROMBERG & SUNSTEIN LLP 125 SUMMER STREET BOSTON, MA 02110-1618 | | | JACKSON, JAKIEDA R | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2626 | |

DATE MAILED: 10/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------|------------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/042,528 | MACKIE, ANDREW WILLIAM | |
| | Examiner | Art Unit | |
| | Jakieda R. Jackson | 2626 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 9/14/2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3-9 is/are allowed.
- 6) ☒ Claim(s) 1,2 and 10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Prosecution Application

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on September 14, 2006 has been entered.

Response to Arguments

2. Applicant argues that Matsubayashi does not use a vocabulary or dictionary. Applicant finds no incentive in the prior art for Matsubayashi to consider a lexicon for components of a compound word so as to require a smaller dictionary when in fact Matsubayashi does not use the dictionary at all. Further, since Matsubayashi makes no mention of a dictionary, the secondary reference (Van Aelten) provides no suggestion or incentive to make use of its lexicon in a document searching program that does not make use of any dictionary. Applicant arguments are persuasive.

Applicant in summary argues that Van Aelten does not describe the use of probabilistic breakpoints. Iizuka does not disclose traversing substrings of the natural-language input delimited by the probabilistic breakpoints to identify linkable components and does not disclose linking components together to interpret a segmented string as a compound word. Applicant's arguments are moot in view of new grounds of rejection.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. **Claims 1-2 and 10** are rejected under 35 U.S.C. 102(e) as being anticipated by Hamamura (USPN 6,847,734).

Regarding **claim 1**, Homamura discloses a method for segmenting compound words in an unrestricted natural-language input, the method comprising:

receiving a natural-language input consisting of a plurality of characters (column 14, lines 32-45 with column 21, lines 23-43 and column 32, line 66 – column 33, line 18);

constructing a set of probabilistic breakpoints in the natural-language input based on probabilistic breakpoint analysis (column 14, lines 32-45 with column 21, lines 23-43 and column 32, line 66 – column 33, line 18);

identifying a plurality of linkable components by traversal of substrings of the natural-language input delimited by the set of probabilistic breakpoints (column 14, lines 32-45 with column 21, lines 23-43 and column 32, line 66 – column 33, line 18); and

returning a segmented string consisting of a plurality of linkable components spanning the natural-language input, wherein the segmented string is interpretable as a compound word (column 14, lines 32-45 with column 21, lines 23-43 and column 32, line 66 – column 33, line 18).

Regarding **claim 2**, Homamura discloses a method further including the step of analyzing a chart of the linkable components in the case that the segmented string cannot be constructed and returning an unsegmented string interpretable as a partial analysis of a compound word (column 10, line 51 – column 11, line 4 with column 26, line 54 – column 27, line 18).

Regarding **claim 10**, Homamura discloses a method wherein the traversal of substrings is performed in an order determined by probabilities obtained in the probabilistic breakpoint analysis (column 8, line 53 – column 9, line 13).

Allowable Subject Matter

5. The following is a statement of reasons for allowance:

As for independent claim 3, it recites an apparatus for segmenting compound words in a natural-language input. Prior art such as Franz show a similar configuration but fails to teach the recited configuration wherein a probabilistic breakpoint analyzer is coupled to the startpoint probability matrix, the endpoint probability matrix and the natural-language input, the probabilistic breakpoint analyzer being operative to generate a breakpoint-annotated input from the natural-language input.

Dependent claims 4-9 are allowed because they further limit their parent claims.


Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jakieda R. Jackson whose telephone number is 571.272.7619. The examiner can normally be reached on Monday through Friday from 7:30 a.m. to 5:00p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on 571.272.7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JRJ
October 24, 2006


DAVID HUDSPETH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600